

THE STANDARD



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Alabama Board of Licensure for Professional Engineers and Land Surveyors

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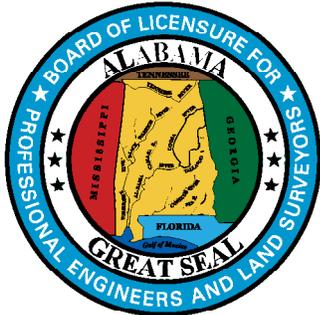
INSPIRATIONAL WORDS

**“Strive for perfection in everything you do.
Take the best that exists and make it better.
When it does not exist, design it.”**

Sir Henry Royce / English Engineer / Automobile Designer

THE COVER -- While often in the minority, there's a growing number of women surveyors growing nationally.

-- Photo Courtesy of NSPS



BOARD INFORMATION

- BELS is comprised of seven members representing the professions of engineering and land surveying and two selected to represent the general public at large.
- All members are vetted by specific nominating committees. The committees submit a list of three names to the Governor who will make the appointment.
- Board meetings are held every two months beginning in January and are open to the public.

THE STANDARD is a publication of the Alabama Board of Licensure for Professional Engineers and Land Surveyors. Digital editions will be posted on our website and linked on our social media pages. To subscribe, email griffin.pritchard@bels.alabama.gov

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Coffee and Kitchen Tables

Bob Dylan sang that the times, they are a'changin and he couldn't be more correct. Think of it from a professional standpoint. Look how many of us are sitting down at our kitchen tables turned work station with coffee brewing and various animals (or children) circling about. Due to the pandemic, the entire work culture has changed and that's not necessarily a bad thing. Some of us are working on a staggered schedule.

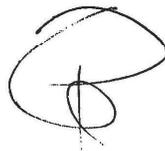
For me, working two days at home and three days at our office in Montgomery is a perfect set-up as it's a weekly change of scenery and gives me a chance to focus on doing different things at different places: I'm currently building this edition of *The STANDARD* from my dining room table. It's also where I did a bulk of the writing.

In the office, I do the office things: Address changes and information requests. I'm sure others have setups similar to this as companies across the board are learning that, given today's technological advances, workers are able to not only relocate their office, but are proving to be more efficient working from their home environment.

According to NPR: "It's hard to draw a sharp distinction between home and office when you are working from the house ... to that end create a space that is reminiscent of an office. If you're the type of person (me) who never takes a break, set a timer and remember to move about the house or neighborhood. Try to maintain a normal routine, which includes changing out of your pjs to go to the home office."

In building this issue, the idea of working outside the office and the idea of communication actually helped shape a couple of articles within this fourth edition.

The times, they have a'changed and no one really knows what the next six months look like. No matter what happens, roll with it.



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Please contact Public Information Specialist Griffin Pritchard to make your request. He can be reached via email at: griffin.pritchard@bels.alabama.gov.

our MISSION

The Alabama Board of Licensure for Professional Engineers and Land Surveyors was established by legislative action in 1935. Its charter is to protect the public by helping to safeguard life, health, and property, and to promote the public welfare by providing for the licensing and regulation of persons in the practices of engineering and land surveying.

This purpose is achieved through the establishment of minimum qualifications for entry into the professions of engineering and land surveying, through the adoption of rules defining and delineating unlawful or unethical conduct, and through discipline for those individuals or entities who violate the applicable laws or rules.

GREYSCALE

Written by Marc S. Barter, P.E.



Celebrating the Life of an Old Friend

Lynn Doyle, a prominent geotechnical engineer and former member of the Alabama Board of Licensure for Professional Engineers and Land Surveyors, passed away August 10, 2020 after a lengthy illness. Lynn became a member of the Alabama Board in 1996, having been appointed by then Republican Governor Fob James.

He was reappointed to a second five-year term by Democratic Governor Don Siegelman. His board service was but one of his many contributions to the practice of engineering. A well-known, well-respected geotechnical engineer, Lynn was named Mobile Engineer of the Year in 1991, and was inducted into the Arkansas Academy of Engineering in 1999, his home state where he received his Bachelor's and Master's degrees from the University of Arkansas.

Following graduation, Lynn worked for the U.S. Army Corp of Engineers in Little Rock, Arkansas until 1968, when he came to Mobile and worked for a local firm. Six years later, Lynn started Geotechnical Engineering-Testing, Inc., which continues today under the management of his sons, Curt and Clay.

From 1969 to 1982, Lynn taught part-time at the University of South Alabama and was passionate about his profession, soils engi-

neering. He taught the laboratory session of the soils course which all civil engineering students were required to take, and that's when I met him.

I was a student in his class, and, for him, it must have seemed like that class never ended.

From the time I graduated to the time Lynn stopped active practice, he mentored me in geotechnical engineering. I could depend on him to provide the most technically well-researched and thoughtful answer to the question at hand. He never allowed the client or the structural engineer to cause him to act against his better judgment.

Material testing and calculations dictated the answers he provided and the answer was the answer. Lynn recommended the foundation systems that were best for the project and technically sound. The structural engineer who relied on his expertise could always sleep at night. As a result, our friendship and professional association extended over 48 years. After hundreds of phone calls and hours of discussion, Lynn must have wondered how long it was going to take for this guy to learn something about soils.

He was one of the few engineers out there who was able to grow a successful business and, at the same time, remain a diligent student of his chosen profession. Lynn continued to write reports and provide technical analysis up until his illness made that impossible. Lynn served for 10 years on this board, dedicating a considerable amount of time to protecting the interests of the public while still running a business and participating in his community.

You never really replace an individual like Lynn. There just are not that many selfless people willing to make the sacrifices necessary to serve their own profession and the public. The engineering community was lucky to have him as a colleague, and this licensing board was lucky to have had him as a past member. Lynn was ethical, honest, hard-working, and respectful of people. He was one of the finest men I have ever known.

Lynn left behind his wife Sarah and four children, Curt, Carter, Clay and Carrie, plus grandchildren, a brother, and two sisters. The current board of licensure extends its condolences to his family.

THOUGHTS ON A CASE

READ THE SITUATION BELOW AND SEND RESPONSES TO GRIFFIN.PRITCHARD@BELS.ALABAMA.GOV

One of the central tenets of the Alabama Board of Licensure for Professional Engineers and Land Surveyors is to “protect the public’s health, safety, property, and welfare.”

The best way to uphold that mission is to inform both the public and the professionals through case findings where the outcome ultimately become teachable moments. Dating back to late 2019, BELS received a complaint indicating a professional land surveyor (the names of both the complainant and the respondent have been redacted) performed services by marking a boundary with an iron pin “at least four feet off the original location.”

The “original location” was destroyed when a telephone pole was removed.

So, what’s the problem, right? Just move the pin and go from there. That’s not quite how property lines work.

Think of it as a straight-line version of the Butterfly Effect: a pin is moved four feet off the original line causing the corresponding corner to change; causing friendly neighbors to become passive aggressive toward

each other over the location of a fence.

Let’s dive a little deeper into this case.

Surveyor A was hired to find property corners for a client looking to build a fence. The surveyor created a diagram of the property to better aid his search for the pins.

He used the generated diagram and a metal detector to hunt for the boundary pins. The surveyor sets a stake and the property owner builds his fence in accordance with the pin locations.

When asked if using a diagram was common practice, the BELS Technical Advisor consulted on the case replied: “creating a diagram of property lines to take to the field is a common practice as long as the diagram is not provided to the client and used only for office personnel.”

To quote Lee Corso: “Not so fast my friend.”

He went on to add; “...it’s not recommended to stake property corners only.”

The neighbor on the other side of the property noticed a “discrepancy of the pin locations based on previous surveys.”

Neighbor 2 contacts Firm A and questions the boundary.

There’s those details again.

Surveyor A returned to the field to address the discrepancy and, upon further investigation, discovered two things: 1) “the pin location was near a telephone pole that had been replaced causing the pin to be moved and 2) Neighbor 2’s deed had been measured incorrectly at some point in the past and never corrected. The two neighbors worked out an agreement on the property lines and the fence was built. So how could this situation have been avoided?

Quoting the Technical Advisor: “If the surveyor has to measure the property to locate the distance from point to point for the client, then it becomes a survey and should be accompanied by a platted survey.”

What are your thoughts on this situation? Email responses to griffin.pritchard@bels.alabama.gov and select ones will be published in the next edition of *The STANDARD*, along with a new case study to debate and discuss.

THOUGHTS: BOARD MEMBER JOEY BREIGHNER, PLS

As a sitting Board member and more importantly, a practicing Land Surveyor, I shudder to think that a land surveying practitioner would go to the field to locate and place a stake by one (1) iron pin representing a property corner by not making measurements to opposing property corners to validate the location of the pin. By doing so, you are performing Boundary Surveying.

You, therefore, are bound by the “Standards of Practice for Surveying in the State of Alabama”.

I would also invite you to review Rule No. 1.02, Definitions, item 1a.

To validate the location of the pin representing a corner, a minimum of measuring from two (2) or three (3) opposing corners would be required, perhaps more.

A few questions that come to mind: (1) Is the corner you are marking in a recorded subdivision or a metes and bounds property? (2) If

metes and bounds, did you research and acquire the subject property deed and the adjoining property deed? (3) Did you keep field notes of the work you performed? (4) Does the work you are performing meet the Standard of Care per definition no. 10 in the Standards? (5) Did you provide the client with a map, “depicting the results of said survey”? Rule No. 1.03, Item No. 3 in the Standards.

The big question though, can you defend the work performed? If this question cannot be answered “YES”, I would have reason to question your practices. This is what the Board would do in the event a complaint was to be filed against the land surveyor.

Let’s mention reputation: the damage to one’s reputation caused by neglect or poor professional practices can have long term consequences. The old adage about reputation comes to mind: it takes years to build a reputation, but only minutes to ruin it.

COMMUNITY NEWS

LETTER TO THE EDITOR: HERBIE N. JOHNSON / HYDRO GENERAL MANAGER / ALABAMA POWER

This is in response to your recent article, **“15 Feet and Rising: When the Dam Fails.”**

It is unfortunate that the article made use of a photo of one of our regulated hydro facilities and provided little information or explanation distinguishing our federally regulated dams and other, unregulated dams across the state. Indeed, the author made no attempt to contact us about our facilities.

Under Federal Energy Regulatory Commission (FERC) rules and internal Southern Company dam safety procedures, Alabama Power’s hydroelectric dams are subject to continuous evaluation. In addition to ongoing data analysis plus regular inspections by trained staff at the plant and annual inspections by Southern Company dam safety engineers, the facilities are inspected every year by FERC inspectors and every five years by a third-party dam safety expert. The third-party inspections include a thorough records review including stability and hydrologic/hydraulic analyses, as well as identified potential failure modes and their associated risk reduction measures.

If we had been contacted, our staff would have gladly described our robust dam safety program and the differences with the program used at the Edenville Dam.

To be absolutely clear, Alabama Power agrees that dam ownership is a tremendous responsibility that must be taken seriously, regardless of the existence or absence of a state dam safety mandate.

The consequences of dam failure demand that proper maintenance, inspection and operations be embraced by every owner. Alabama Power looks forward to continuing our active participation in discussions around dam safety in our state.

EDITOR’S RESPONSE:

While not trying to point blame in any direction, the article was crafted in such a way to raise awareness of infrastructure issues with some of Alabama’s aging dams and, too, begin the conversation that what happened at the two dams in Michigan could easily happen in Alabama. While researching for the piece over a period of weeks, multiple outlets and agencies were contacted for a response. Chief among them were the Michigan Department of Environment, Great Lakes and Energy, the Michigan Department of Licensing and Regulatory Affairs, Alabama Power and the Tennessee Valley Authority, who never returned calls or followed up on information requests. It is the goal of this publication to craft and publish stories in a fair and accurate manner with the expectation of producing an informative and interesting product.

SEND US YOUR PHOTOS & IDEAS

Part of building this publication is the desire to tell the successes and stories of our licensee community. With that said, we encourage our stakeholders to send us pictures of work-related successes; be it an award, an accomplishment, a project that was finished ahead of schedule or one that’s been quite taxing to finish. Items for the COMMUNITY NEWS section can be sent to griffin.pritchard@bels.alabama.gov.

Following the revamp of our website, we have also made a commitment to keep content on our social media feeds (Facebook: Alabama Board of Licensure for Professional Engineers and Land Surveyors / Twitter @bels382) fresh and engaging. One of the keys to success is the help of our community. Join us every Thursday at 9:05 a.m. for our Facebook Lives where we discuss a myriad of topics. If you have trends or profession-related items you would like to see written or talked about let us know.

COMMUNITY NEWS

TEIPEL EARNS RAILWAY & LOCOMOTIVE SCHOLARSHIP

Katherine Teipel, pursuing a Master of Science degree in Civil Engineering at the University of Alabama, has been awarded a scholarship by The Railway and Locomotive Historical Society. This scholarship is granted to a university student studying aspects of railroad history and operations.

Teipel graduated from Alabama May 2020 with a Bachelor's degree in Civil Engineering. Traveling has always been one of her main interests so it was natural for her to focus on the transportation and traffic sector.

She has completed an internship with WSP USA as a Rail Design Intern in their New York City office.



There she enjoyed going on site and designing rail yards, alignments, and high speed rail.

She has recently become licensed as an Engineer Intern in Alabama and has plans to become a Professional Engineer.

Founded in 1921, The Railway and Locomotive Historical Society is North America's oldest organization focusing on railroad history. Its purpose is to promote research, writing, and public knowledge

about all aspects of railroading.

Information on the R&LHS and its scholarship program can be found on the organization's website, RLHS.org.

SAIN ASSOICATES WIN EXCELLENCE IN CONSTRUCTION AWARDS

According to a press release, Sain Associates has been awarded a handful of Excellence in Construction trophies for their work on the Yulista Build-to-Suit Campus at Redstone Gateway in Huntsville, Ala.

Sain was awarded, according to the release, first place for Civil Engineering from the Associated Builders and Contractors of Alabama and the Award of Excellence (Engineering) from the Assoicated Builders and Contractors of North Alabama.

Quoting Principal PE and Owner Joe Meads: "We are proud to have been on the team delivered another incredible campus at Redstone Gateway. Working on great projects like Yulist is one of the reasons we created a branch office in Huntsville."

The Yulista Build-to-Suit Campus, according to the Sain release, "consists of a 133,000 square foot research development facility, a 126,000 square foot warehouse and a 106,000 square foot office building which was developed on 24 acres of land in Phase 2 of Redstone Gateway."

Sain was responsible for providing the surveying and civil engineering design, layout plans, demolition plans, grading and storm drainage plans, utility plan and various other plan aspects.



RAYTHEON TECHNOLOGIES INVESTS IN STEM HIGH SCHOOL

According to a press release, Raytheon Technologies - in August 2020 - gave \$4 million in grant money to the newly created Alabama School of Cybertechnology and Engineering (ASCTE) to aide students in preparing and focusing on future cybersecurity careers in government and in the private sector.

Created by Gov. Kay Ivey following a mention in the 2019 State of the State address, ASCTE is the state's only fully public residential high school for students from Alabama's 137 school districts seeking advanced studies in engineering and cyber tech. Raytheon Technologies is an aerospace and defense company that provides advanced systems and services for commercial, military and government customers across the globe.



MEASURED WOMEN

Female Surveyors talk past, present and future of their profession

By Griffin Pritchard |
BELS Public Information Specialist

Pages 6-9

When people picture land surveyors, the image is of a guy looking through a total station taking a measurement or of a guy walking through the woods looking for a quarter-corner on a plat of property. Regardless of the scenario, the key image is of a man. Stereotypical, yes; but looking at the numbers down further in this article it's not a falsehood. However, that's not quite the whole story as there is a population of the surveying community that is thriving and proving that women are not afraid to step into the wilderness to find a corner.

"A lot of women think they can't be surveyors because of the physicality of the job at times," said Professional Land Surveyor Lisa Van Horn.

Van Horn is the immediate past president of the National Society of Professional Surveyors, their third female president.

"My first crew chief, in the two weeks I'd started, handed me a sledgehammer and told me to start swinging it. I broke the handle," Van Horn said. "He said I'm going to change it this time and show you how to do it. The next time, you're doing it. It's learning. I wasn't treated any different than anyone else on the crew because I was a female. But, I didn't expect to be."

"As an engineer and a surveyor, I was so focused on my projects and jobs that I never noticed much attention being paid to the fact that I was a woman, which in retrospect, was pretty amazing, since it was early 1980s when I worked," wrote Carol Youkey, who holds both a PE and a PLS designation.

"The clients seemed to respect me and my fellow land surveying professionals did as well, as far as I could tell. I was fortunate to have several of those other land surveying professionals as mentors along the way."

Youkey was licensed as Professional Engineer in 1977 and then became Alabama's first licensed (then known as registration) female Professional Land Surveyor in 1980.

She added that one of her proudest career accomplishments was holding both professional designations.

While there is no best way to track the exact number of women surveyors across the country (multiple states don't require licenses to declare a sex on the application) it's estimated there are around 20 (out of 1,082) in Alabama, 100 (out of 2,500) in Florida, around 90 practicing in Texas and 10 (out of 698) licensed in Louisiana.

According to James Manning, who serves as the Executive Director of Kentucky's Board of Professional Engineers and Land Surveyors: "We don't keep records on gender, so my estimate is based on a manual review of our active licensees."

There are, according to Manning, approximately 1,337 Professional Land Surveyors licensed within the Bluegrass State. Of that total, approximately 20 are women.

"About a dozen more hold a PLS license which is inactive, retired or expired," Manning added. "I would also note that we are seeing a lot more interest in the surveying profession, especially from people who have completed college and entered the workforce in a different field and are looking to make a career change. Although we don't track statistics, both I and my staff have noticed an increase in the number of calls and emails we are receiving seeking information about licensure requirements and educational resources."

A lot of that could go toward the strides being taken to better promote the profession across the education landscape using tools such as the Trig Star competition and various Twitter pages aimed at elementary-school aged children and an increased commitment to growing the STEM fields in multiple states.

Van Horn: "I regularly talk to a local high school about surveying and the Trig Star Program. While some feel because we don't have the winners of Trig Star going into surveying that it serves no purpose. I feel that when I get to talk to 400 or 500 students in a day that someone in that group had no idea [the aspects of land surveying] and the realization that this may be the perfect career for them. The program also educates the math instructors who the Surveyor is and gives real world examples for students."

What exactly attracts someone to the surveying profession?

Enter University of Alabama at Huntsville student Ivey Buchanan, a student currently working toward a goal of becoming a Professional Land Surveyor.

"I feel [the profession] has chosen me more so than the other way around," Buchanan said. "At 16, I started an internship at Lee Y. Greene and Associates. Originally my main task was making edits to CAD Drawings and had little idea about what I wanted to pursue as a career. I enrolled as a Computer Science major at UAH, but it wasn't the right fit. I talked with an advisor about my interests and work experience. I realized that after working in this field for several years, I still really enjoy it."

Buchanan's advisor, recognizing her affinity for the sciences and the maths, recommended Earth Science with a concentration in GIS. That suggestion, according to Buchanan "check off all [of her] boxes."

"I began to get more involved in the land surveying aspect at work and plan to continue on with licensure after graduation this fall," said Buchanan. "Growing up, my parents would take my sister and I hiking nearly every weekend that it wasn't raining. Eventually I went on to climb a couple mountains over 14,000 ft in elevation, Mt Elbert and Mt Huron, making note of the monuments set at each peak. I also joined the National Speleological Society and volunteered on a cave survey. When I started college, I thought I would discover a career that I would love, but it turned out that I had already found it. Land surveying encompasses my hobbies and interests in one career, and I really enjoy it."



Three leaders in the surveying profession Lisa Van Horn (top) takes a reading while surrounded by snow. Carol Youkey, Alabama's first female professional land surveyor, appears in a news clipping (middle) and Anna Rios poses for a photo prior to hosting a Women in Surveying event in Texas. Ivy Buchanan (next page) works with experienced surveyors as an intern.

-- Photos Courtesy of Lisa Van Horn, Carol Youkey, Anna Rios and Ivy Buchanan



When searching for trends to add into this article, this state stood out: “While 13 percent may sound like a small percentage of the overall workforce, it actually reflects a change within the profession. At the end of the 80s, only three percent of licensed/registered land surveyors were female. That number has since grown and will continue on an upward trajectory for years to come as 27 percent of students enrolled across the country in surveying, geomatic and like programs are female.”

Buchanan, who is still carving her own path, seems to be in line with that of Anna Rios.

Rios, an RPLS Project Manager based out of Texas, who is a key member with The Future Surveyors Foundation, a 501c3 organization developed to create opportunity, inspiration and support for a skilled workforce in Surveying and Geospatial Engineering. The Foundation was founded on the heels of the initial Women Surveyors Summit, hosted by the Texas Society of Professional Surveyors in August of 2019.

While Buchanan is working for Greene, a surveyor with deep roots in both Alabama and the profession, Rios began working in the office of Judith McGray the first female land surveyor in Texas to become registered (1979).

“My first job when I moved to Austin was at a survey firm in an administrative role,” said Rios. “This position happened to be for the first woman who was registered as a surveyor in Texas. I was inspired to see her build her company and be highly respected in the profession. There were so many different aspects of surveying that interested me: research, problem solving, outdoor adventures, technology, geometry, business and even law. It took just a few months for me to realize this profession had so many opportunities. I quickly began surveying classes at Austin Community College (now an adjunct professor). Later, I moved on to get my Surveyor-in-Training certification and then finally my license in Texas.”

Rios and Van Horn along with Youkey, who is going to have an award named after her by the Alabama Society of Professional Land Surveyors, are proponents of “leading by example” as each has been actively involved in promoting the profession throughout their respective states.

“The year I graduated from college, there was a decline in engineering jobs all over, and the female population in all engineering colleges at my university had dropped from 24 to 12,” said Youkey. “When it was time to enroll in the summer surveying camp, my advisors determined that I should not enroll due to the physical challenges of the course, and because I would be

the only woman there, so that posed a whole different set of problems.”

Van Horn – who also served as a President of her state board – added: “do not let anyone tell you that you shouldn’t be here, some of the best surveyors I know are women.”

According to LinkedIn: “Right now is a great time to be a surveyor regardless of your gender. A shortage of surveyors in the market generally means employers need [workers] to ensure professional projects are completed to the highest standard. All this means it’s an employee’s market.”

Despite the current business climate with Covid-19 still a part of the conversation, LinkedIn adds: “with firms fighting over the best talent [potential employees] are in the perfect position.”

Promotion of the profession is, right now, paramount to its growth as the number of licensees globally (focusing primarily on the United States continue to dwindle.

“The numbers of women are continuing to grow, and it’s exciting to see,” Rios added. “There are a variety of backgrounds that are not that visible in the profession and it is important to reach out to and support individuals with different backgrounds. What used to work for bringing people into the profession, hasn’t worked in years. There has been talk of “the Future of Surveying” and more for decades. Never has there been more exciting technology combined with increased salaries to help attract more people into the profession. There will always be a great need for surveyors and people still just don’t know what it is. The profession needs Ambassadors for surveying and geospatial outreach.

With efforts like the Get Kids Into Survey with Ambassadors Elaine Ball and Elly Ball, the Diversity stickers and shirts that Amanda Allred started, and so many other amazing women who are stepping up and leading the way. We as a profession and as women in the profession are helping to bring visibility to the career path that we love. We (men and women both) need to be strong Ambassadors for the profession to continue to build our future workforce being inclusive of all backgrounds.”

Since Youkey was the first to be licensed in Alabama, it’s fitting that she gets the last word. When asked what advice she would give to those younglings looking to join the profession: “I would advise them to continue to educate themselves, always, and learn from the wealth of knowledge that is provided by so many experienced land surveyors. I would tell them that, in spite of the physical and mental demands, if they feel it’s right for them I guarantee they will love it and be very, very happy about their choice.”

FOOTPRINT DISPUTED

By Griffin Pritchard |
BELS Public Information Specialist

Pages 10-11

A pair of surveyors look through the lense
trying to gauge distance.

-- Photos Courtesy of NSPS



Imagine going to buy a pair of shoes only to take them out of the box and find out the right one is incrementally larger than the left. Now put yourself in the position of a land surveyor having to determine how big a foot actually is when recording a measurement. Does he use the U.S. Survey Foot, which was established in 1893 or the sleeker, more exact International Survey Foot (1959), that's used across the surveyor community with the exception of a few states.

The difference between the two is slight, but as the distance grows the difference begins to show; starting at one hundredth of a foot per mile – two feet for every million feet ---“an amount so small that it only adds up for people who measure over long distances,” according to a New York Times article.

NSPS Head Tim Burch, in a 2019 article for the GPS World website wrote: “What makes it even more confusing is that states across our country vary on which “foot” is standard within their legislation and daily practices. Currently (as of 2019) six states recognize the International Survey Foot as their standard unit of measurement, with four states not defining it.”

Most states mandate the use of the U.S. Survey Foot because it allows to account for the curvature of the Earth. Also, certain agencies like the U.S. Army Corps of Engineers, the Park Services or employees with the Federal Aviation Administra-

tion utilize the U.S. Survey Foot as their measurement du jour.

However, there are still a few territories that remain non-denominational as Alaska, Alabama and Missouri are the only states that have not declared allegiance to a particular foot.

But, to quote Dylan, “the times, they are a’changin.”

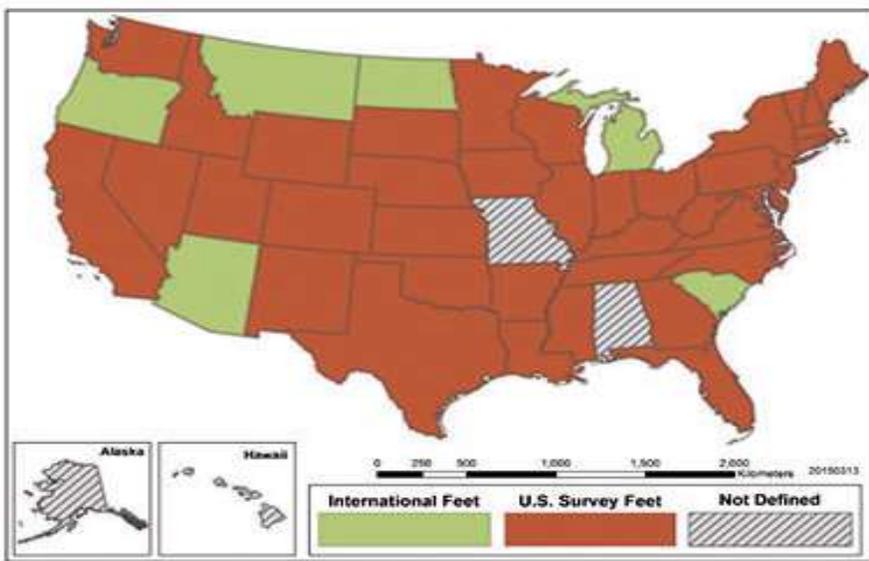
Burch: “NGS (National Geodetic Society) has suggested that with the 2022 Datum change, the U.S. Survey Foot will not be supported in applications and software produced by them for geodetic computations. It will be limited to meters and the international foot so they are recommending that states update their existing definitions to change to the international foot along with recognizing the 2022 datum as the official coordinate system base.”

So how did the issue of the mismatched feet come to the fore? According to the NYTimes article: “For more than six decades [land surveyors] have been toggling between the two units depending on what they measure and where. The toggling does not always work. Michael Dennis, an Arizona-based surveyor and geodesist with the NGS has been cataloging the mix-ups between the two feet for years and repairing the errors.”

In 2019, he'd had enough.

“There's a recipe for disaster right there and I'm getting this all the time,” Dennis said.

Mismatched feet can have an impact on construction as Dennis tells the story of a high-rise that had to be shortened



by a floor because it was in the direct flight path of an international airport.

He declined to name the city. But, as the Times and other surveying publications point out, the two feet are easy to trip and fall over. In some instances, surveyors have to use one measure on the horizontal and another on the vertical.

“It’s bad enough that people are worried about getting sued over or losing clients,” Dennis told the Times.

Even the NGS has trouble explaining the appropriate foot for the appropriate scenario. Quoting the Times: “In a video about how to nix up the two feet, (The NGS) mixed them up. It wrongly said that 2,000 meters was 6,561.67 International Feet and 6,561.68 U.S. Survey Feet, reversing the correct conversions.”

Like having a mailbox spelled m-a-l-e as a joke, it went unnoticed for years until Dennis began his project.

“This provides yet more evidence of the folly of maintaining two nearly identical versions of the same foot,” he said.

THE NGS surveyed the nearly 550 attendees of a recent webinar and found that 62 of those credited their mistakes to getting off on the wrong foot.

So what happens next? According to both Dennis and Smith, the U.S. Survey Foot goes the way of the dinosaur and becomes nothing but a memory and talking point for those long in the tooth of the profession. Dennis joked he brought a bulletproof vest with him to a meeting of surveyors from across the country to broach the subject of snuffing out the U.S. Survey Foot. And, as expected a poll of those in attendance was met with mixed reactions; some were all for it. Others looked at it somewhere between blasphemy and hurling insults at ones mother.

According to the Times article: “whether they embrace the new one or not, the old foot will be obsolete January 1, 2023 according to the National Institute of Standards and Technology, the agency within the Department of Commerce with the authority to fix weights and measures for the United States.

“One thing is, let’s be honest, the actual name the U.S. Survey Foot .. for a lot of Americans, especially today, anything that has to do with the U.S. and that naming quality being taken away, it’s like we’re under attack,” Burch said. “So there is a portion of the country that’s like, ‘No, this is ours. This is what we are going to keep.’”

However, having the U.S. in the title is not going to be enough to keep that measure from going the way of the “cubit.”


NATIONAL COUNCIL OF ENGINEERING EXAMINERS
THE COUNCIL OF THE 55 BOARDS OF ENGINEERING EXAMINERS OF THE UNITED STATES

304 LS PM

LAND SURVEYING
AFTERNOON EXAMINATION
FUNDAMENTALS OF LAND SURVEYING

You are not authorized to copy the questions for future reference

- This examination is given in two four-hour periods on the same day. The subject matter covers the fundamentals of Land Surveying in both periods. Subjects covered in this section are:

Subjects	Question Nos.
Mathematics	101
Surveying	102 - 105
Property Surveys & Design	106 - 109
Vertical Curves	110
- In the accompanying solution pamphlet work five of the problems attached according to your proctor's instructions.
- Do not submit solutions or partial solutions for more than five of these problems.
- Solution paper is provided in accompanying solution pamphlet. If a solution or partial solution is written on solution paper which you do not wish scored, write "VOID" across the page.
- Enter your applicant's identification number in the upper right hand corner of the cover sheet of your solution pamphlet. Enter the problem number on each solution sheet in the space provided.
- Read back of booklet for detailed instructions.
- After checking your examination set, return the completed solution pamphlet and this pamphlet to your proctor.

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PRINCIPLES AND PRACTICE
 of
LAND SURVEYING EXAMINATION
 (Multiple-Choice Section)

Read the directions on the back cover.
 Do not open this book until you are told to do so.
 Answer sheet is inside.

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**NSPS posted, on their social media pages,
 PLS exams from decades past.**
-- Photos Courtesy of NSPS

GOVERNOR'S ORDER CREATES STEM COUNCIL

By Griffin Pritchard |
BELS Public Information Specialist

Pages 12-14

The STEM Council was created as a way to bring a better focus on the importance of STEM education. Students at Wetumpka High School worked through different scenarios and created a new ride for a special needs friend.

-- Photos Courtesy Wetumpka (Alabama) High School



One of the casualties of the Covid-shortened legislative session was a bill written to create the State of Alabama's first STEM Council. The bill sponsored by Rep. Terri Collins (R-Decatur / Chair of the House Education Policy Committee) was written to create the STEM Council as an independent entity within the Alabama Department of Commerce.

Breath was breathed back into the STEM Council on Sept. 23 when Gov. Kay Ivey, through an Executive Order, made it into a reality.

"Having the math and science experts from Alabama set high quality standards and guiding student growth in achievement will make a positive difference," Collins said in the press release announcing the Executive Order. "Thank you, Governor Ivey for prioritizing education."

The bill (HB 293) passed the Alabama House on March 5, but was left stranded as Covid caused the state to shutdown most things including the 2020 Legislative session.

As written in the Executive Order: "Whereas these STEM fields – and indeed, over three quarters of Alabama's in-demand occupations – require sustained, quality STEM education at the secondary and postsecondary levels;" and later

on was written "Whereas this plan featured 24 recommendations across six priority areas, including one to establish an 'Alabama STEM Council' to promote and improve STEM education in Alabama in a systemic, long-term manner."

The mission of the council will be to "advise state leadership on ways to improve STEM-related education, career awareness and workforce development opportunities within the state."

"Governor Ivey has a bold education plan which puts focus on preparing an individual for the workforce not just for today for the workforce of tomorrow," wrote Governor Ivey's Press Secretary Gina Maiola. "The Governor is looking to the STEM Council to make recommendations to ensure Alabama is on track to doing that."

Alabama, following Ivey's order, joins a host of states with some type of STEM education / career development structure already in place. Most of those state's focus seems to lie on the education end of STEM class schedule, however, Alabama is one of a handful creating a marriage between education and workforce development.

"Alabama has continued to grow into an advanced manufacturing, aerospace engineering and cybertechnology center of excellence and as a result, the demand for qualified labor in these sectors have skyrocketed," Governor Ivey said in the

press release.

According to Ernie Cowart, Vice President of the state's Economic Development Partnership of Alabama: "STEM workers earn higher compensation and these jobs are growing faster than others."

Cowart added that his group agrees with the Governor's assessment that the state must continue to grow and develop a STEM-savvy workforce.

In researching, U.S. Bureau of Labor Statistics, "employment in STEM occupations is projected to grow by eight percent over the next 10 years compared to a 3.7 percent growth rate of all other jobs. Also, these jobs have a median wage of \$86,980 versus \$39,810 for all other jobs."

Cowart: "This is definitely an area we want and need to continue increasing. STEM occupations increase the state's median income and further diversify our economy."

The Governor's office, by 2026, estimates there will be more than 850,000 STEM related jobs within the State of Alabama.

Quoting Maiola: "As companies continue to relocate or expand in Alabama, the Governor wants the members of the STEM Council to provide meaningful insight and feedback so that Alabama is moving forward into the next century. Governor Ivey sought out some of Alabama's best and brightest – and in various industries, areas of work and expertise – to help her accomplish that."

To that end, the Alabama STEM Council is comprised of 40 individuals mixing backgrounds of education, workforce development and various other stakeholder groups. She went on to appoint Neil Lamb (Vice President for Educational Outreach, HudsonAlpha Institute for Biotechnology) Chairman and unofficial wrangler of 40 different personalities.

Lamb agreed that "it can be a struggle for large advisory groups to coordinate actions and maintain focus." But he also pointed out that getting everyone to the table is going to be made somewhat easier thanks to the recommendations outlined in Alabama's Roadmap to STEM Success, which are recommendations along the line of a strategic plan.

"A diverse council of our size offers significant advantages" Lamb said. "I've had the privilege of working with most of the council members on prior STEM-related projects. We have outstanding representation across multiple stakeholder groups - formal and informal education, workforce development, industry, public policy. This depth of experience is well suited for assembling short-term working groups to tackle specific focus areas - topics like early numeracy, work-world experiences, and expanding access. You want a range of content experts at each of those tables, which is difficult with a small team. Larger groups allow you to divide and conquer."

The state's STEM Roadmap is a 50-page plan created in 2019 and is designed to further incorporate students into the different science, technology, engineering and math fields.

As written in the introduction: "Although our state has numerous quality in-school and out-of-school STEM education initiatives, they are beyond the reach of many Alabamians, and we are divided into STEM haves and have-nots. Too few

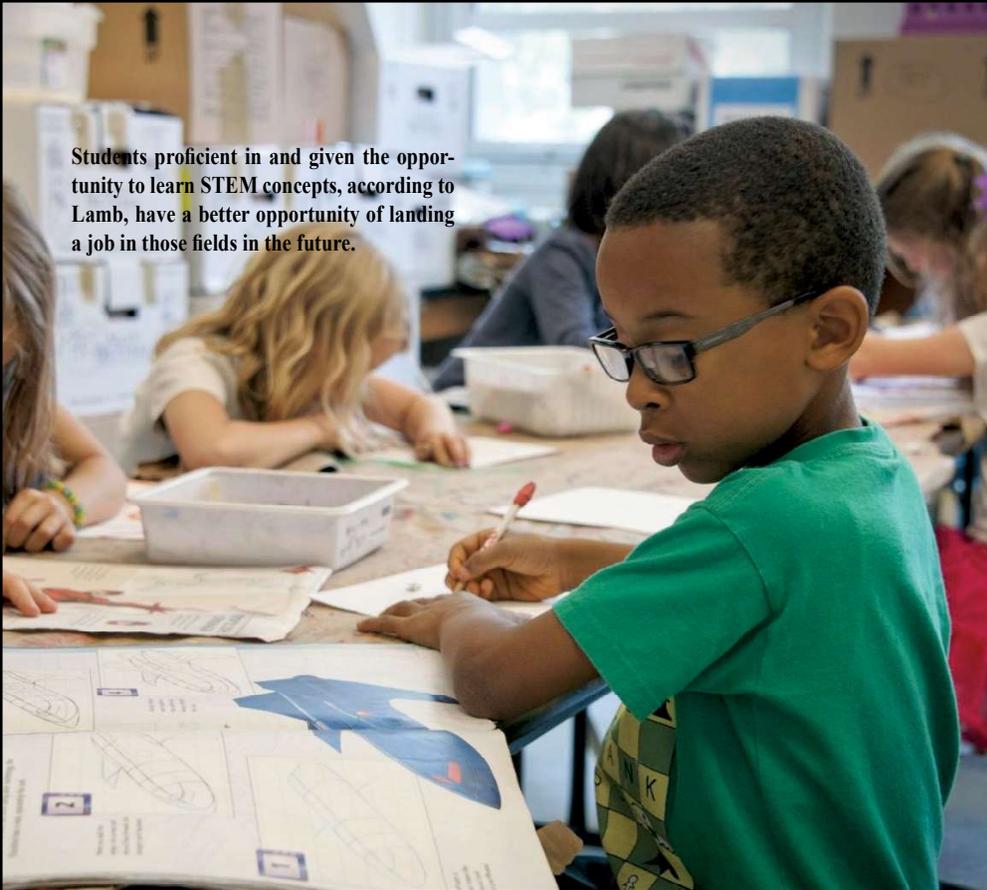
MEET THE MEMBERS OF THE ALABAMA STEM COUNCIL



Neil Lamb - Vice President for Education Outreach - HudsonAlpha Institute for Biotechnology was tapped by Gov. Ivey to lead the state's STEM Council.

- Charles Nash, University of Alabama System
- Terry Burkle, Baldwin Co. Edu. Foundation
- Dawn Morrison, Alabama State DOE.
- Charisse Stokes, Montgomery Chamber
- Vicky Karolewics, President, Wallace State C.C.
- Sheila Holt, AMSTI Director, UAH
- Liz Huntley, Lightfoot, Franklin & White
- RaSheda Workman, Stillman College
- Eric Mackey, State Superintendent of Education
- Barbara Cooper, Secretary, Dept of Early Childhood Education
- Jimmy Baker, Chancellor, Alabama C.C. System
- Jim Purcell, Executive Director, Alabama Commission on Higher Education
- Fitzgerald Washington, Secretary, Alabama DOL
- Greg Canfield, Secretary, Alabama Department of Commerce
- Tim McCartney, Chair, Workforce Council
- George Clark, President, Manufacture Alabama
- Ken Tucker, President, UWest Alabama
- Kathryn Lanier, STEM Education Outreach Director, Southern Research
- Tina Miller-Way, Dauphin Island Sea Lab
- Amy Templeton, President and CEO, McWane Science Center
- Kay Taylor, Director of Education, U.S. Space and Rocket Center
- Mary Lou Ewald, Director of Outreach, Auburn Univ. College of Sciences and Math
- Paul Morin, Alabama SMART Foundation
- Adreinne Starks, Founder and CEO, STREAM Innovations

Students proficient in and given the opportunity to learn STEM concepts, according to Lamb, have a better opportunity of landing a job in those fields in the future.



students have experiences that promote an ‘I belong here’ STEM identity. At an overarching level, Alabama lacks a common vision to expand and weave our individual initiatives, resources and expertise into a coordinated STEM education network providing the workforce pipeline essential to the future of Alabama’s economy. It can be a struggle for large advisory groups to coordinate actions and maintain focus, but I am less concerned about that in this setting. The STEM Council is tasked to implement and support the recommendations outlined in the state’s strategic plan, Alabama’s Roadmap to STEM Success. The Roadmap provides both marching orders and a metric for measuring our progress.

So what does that mean for the folks who don’t speak fluent Department of Education?

Lamb: “Students who are fluent in STEM concepts can gather and make sense of information to solve problems. That content knowledge and skillset opens the door to tomorrow’s STEM careers, a key driver of Alabama’s economy. Unfortunately, our students have fallen behind in math and science proficiency. The STEM Council serves as an advocate, watchdog and champion for stronger STEM initiatives, increased coordination among existing stakeholders and greater access to quality programs for all students. A strong foundation in STEM content, together with multiple opportunities to explore career pathways helps ensure students are prepared to enter and succeed in our future workforce.”

Once the council gathers for that first meeting and starts the conversation, the state’s future is going to shine quite brightly. Additional information, as well as the Governor’s Executive order creating the STEM Council can be found by visiting: <https://governor.alabama.gov/newsroom/2020/09/governor-ivey-establishes-the-alabama-stem-council/>

MEET THE MEMBERS OF THE ALABAMA STEM COUNCIL

- Calvin Briggs, Founder and Director, Southern Center for Broadening Participation in STEM
- Josh Laney, Director, Office of Apprenticeship
- Keith Phillips, Executive Director, Alabama Technology Network
- Jimmy Hull, Career and Technical Education Director, Alabama State Department of Education
- Sean Stevens, Career Coach, Alabama State DOE
- Tina Watts, Community Investor, The Boeing Company
- Daryl Taylor, VP and GM, Airbus America
- Jimmy Parnell, President, Farmers Federation
- Susan Currie, Stakeholder Relations Specialist, NASA
- Ronald Davis, President, Auto Manufacturers Association
- K-Rob Thomas, Power Delivery GM, Alabama Power
- Lee Meadows, Associate Professor, Department of Curriculum and Instruction, UAB
- Tim Wick, Senior Associate Dean, School of Engineering, UAB
- Robin McGill, Director of Instruction, Alabama Commission on Higher Education
- Elisabeth Davis, Assistant Superintendent of the Division of Teaching and Learning, State BOE
- Jeff Gray, Professor, Department of Computer Science, University of Alabama
- Cynthia McCarty, District 6 Representative, Alabama State BOE
- Andre Harrison, Vice President, Cognia
- Brenda Terry, Executive Director, Alabama Mathematics, Science, Technology, and Engineering Coalition for Education
- Tammy Dunn, Program Director, A+ Education Partnership



EACH ONE TEACH ONE



USA STUDENTS 2ND IN CAST IN STEEL EVENT

STEM principles can be found in a multitude of places. Just look at what it takes to craft a functional knife. Students from the University of South Alabama - over the summer - put their skills to the test as part of the 2nd Cast in Steel Competition hosted and sponsored by the Steel Founders' Society of America.

According to a release from USA's College of Engineering: "This year's competition featured 18 teams from colleges throughout North America."

Each team was tasked with conceptualizing and crafting a Bowie Knife.

Simple right? But this was about more than manufacturing a shiny blade with a nifty handle.

Each of the knives were subjected to performance tests for cutting (sharpness), chopping (edge-retention) and durability (did it unintentionally transform into a multiple-piece construction). But it was more than just performance, the teams had to produce a written technical report and a video report on their entry.

The Engineering Jaguars finished third behind Virginia Polytechnic Institute and Texas A&M.

USA's Cast in Steel team partnered with the Howell Foundry LLC to produce "Model J28" (Pictured above) and received the Best Video Award and individually received a \$500 prize with the award.

The 2020 USA team is comprised of engineering students: Bryant Baldwin, Rachel Chai, Briana Cunningham and Joshua Morgan. Dr. Melike Dizby-Onat served as the team's faculty advisor.



ALABAMA BOARD
FOR ENGINEERS &
LAND SURVEYORS

Happy 85th Birthday!

FIND YOUR INNER VOICE



By Griffin Pritchard |

BELS Public Information Specialist

Pages 16-19

Engineers shape the world around them like Vulcan at the forge crafting implements to be used by the residents of Olympus. While their minds be mightily communicating those thoughts, at time, become an Achilles Heel.

“(Having the ability to communicate clearly) is extremely important,” wrote BELS’s Helen Adams-Morales in an email. “If you do not communicate, team members can waste time (and the firm’s money) approaching a project with an incorrect scope of work or direction that does not meet the client’s needs. Also, quality assurance can be comprised if team members do not rely on each other’s input and guidance and routinely communicate.”

After speaking with experts, professionals and students one common bond connects them: Ineffective communication is not just a once or twice type of incident. It really is an issue that crosses disciplines and spreads throughout the profession.

“As a lifelong introvert,” wrote ASPE President Shunna Cannon in an email response, “I can value, with assertion, how my communication skills have been increasingly refined towards a greater aptitude of trust and respect among colleagues and team members.”

Cannon, who works as an engineer and a Transmission Line

A recent survey sent out by Dartmouth’s Thayer College of Engineering asked its graduates what skills beyond the technical are essential for engineers. A majority of the respondents, decades in difference some of them, each responded that communication skills were vital to success.

Design-Contract Support person for the Southern Company went on to add: “Body language, tone of voice, listening acuity, sincere inquisition, eye contact, interrogative preparations (appropriate dress, personal protective equipment, meeting handouts, agenda procurement, job safety briefings, etc.), and variety of project knowledge can all make a tremendous difference, whether it is a team member, an executive, or customer.”

Because of the feedback gathered from graduates and conversations with those in the field, the education community has taken steps to address this issue and work to turn “lifelong introverts” into recognizable faces in front of a crowd.

“Communication is something I have struggled with throughout my career,” wrote Steve Merry, a licensed Professional Engineer in Alabama and a project engineer with more than four decades of experience.

Merry said he keeps a logbook to keep himself and others apprised of the job and also sends updates.

“At times this looked like over communicating, but it also kept the communication channels open,” Merry said.

Learning institutions ranging from the University of Texas-Austin, University of Alabama to the Georgia Institute of Technology have added a communication element to their engineering course of study.

“Everyone needs to be able to communicate what they know and why it matters,” wrote Dr. Alexa Chilcutt, associate professor of Communication Studies at the University of Alabama in an email. “In all of our research, both through research articles and interviewing professionals across the world, the fact that one’s ability to communicate is a predictor of their career advancement, project success, and stakeholder buy-in.”

Chilcutt and Dr. Adam Brooks, bring a mixed bag of experience to the Capstone, having worked “both on and off campus with engineering students and corporate professionals for the past 10 years.”

“We (Dr. Adam Brooks and I) also realized that those with engineering or technical backgrounds were some of the best speakers/presenters when given the processes to follow to craft their message and deliver it (both visually and nonverbally) with confidence. An engineer’s linear thought processes align well with the tried and true processes for crafting a presentation,” said Dr. Alex Chilcutt, associate professor of Communication Studies at the University of Alabama.

At Dartmouth College, a question was posed to the graduates of its Thayer College of Engineering: What skills beyond technical do you think are most important for an engineer to have. Now the question was terribly worded, but the answers were both multi-generational and, to a person, ranked communication as the top skill needed to be effective within the profession.

Tom Streeter (C/O ’48): “Good interpersonal relationships, especially the ability to work with clients, associates at all levels, contractors and the public in general; and the ability to express oneself accurately and concisely.”

John Kenney (C/O 54): “The ability to communicate the outcome of their work to others (at all educational levels) in understandable terms.”

But it’s not just the older heads in the profession reflecting back on their careers. More recent grads are noticing this too.

Sticking with Dartmouth’s query, Deidra Willis a 2013 graduate said: “Interpersonal and communication skills. You can’t learn how a system works and potentially improve it without being able to learn from others or articulate your ideas.”

BELS Board Member Nan Baldwin brings a different perspective to the conversation, given her profession is outside of the engineering and land surveying professions.

“One problem that seems to occur with me over the years, is learning how to communicate effectively with people that have different communication styles from mine,” she wrote in

an email. “You also must learn how to communicate in two directions – upward to higher management and senior leaders and downward to subordinates.”

Professionals also have to be able to communicate with the general public. A quartet of professors from Georgia Tech, Western Michigan, Penn State and Utah combined to create a white paper for the American Society of Engineering Educators entitled: “Why Industry Says That Engineering Graduates Have Poor Communication Skills: What the Literature Says.”

The paper, written in 2011, highlights the key concern in the second paragraph of the abstract: “Our review has found that part of the disparity arises because of the communication assignments that engineering students perform in college significantly differ from the writing situations (audiences, purposes and occasions) that engineering graduates encounter in the industry.

“New engineering graduates do not typically possess the expertise to realize what communication principles from classroom assignments apply, or do not apply, in different professional situations. Yet a third problem is what constitutes strong communication skills in professional engineering setting may differ considerably from what is taught or expected in classroom settings.”

Given that professionals within the engineering disciplines and those within the fields of education have both stepped to the line to say communication is key, what happens now?

Go back to the beginning.

Look at the curriculum and see where it can be improved upon.

Paraphrasing a 2019 article from the University of Alabama: “(ABET) has noticed and has taken action. As the accrediting body of more than 4,000 programs in 32 countries worldwide, ABET updated its 2019 criteria for Accrediting Engineering Technology Programs to require “an ability to apply written, oral and graphical communication in both technical and non-technical environments an ability to identify and use appropriate technical literature.”

“We have worked both on and off campus with engineering students and with corporate professionals providing training for the past 10 years,” wrote Chilcutt, who served as communication instructor for the University’s Aeronautical and Mechanical Engineering REU program.

“The outcomes were to teach the students the value of communicating research projects to both technical and non-technical audiences. This experience taught me how to make the

training relevant and interesting to engineers.”

In discussing a diversity in audience – the BELS audience divides into a multitude of stakeholders: professionals within the field which lend to technical presentations, the general public and code enforcers that are tangential to the field which lends to non-technical and theoretical presentations and then students (be they collegiate or high school) who are looking to venture into the professions or are already on the professional path, which leads to more of a sales pitch than anything else.

“In my profession, effective communication is key,” Baldwin said. “It is equivalent to providing a road map which gives explicit direction to help someone reach their destination safely. Effective communication also provides clarity and minimizes confusion to make sure everyone understands what you are saying.

The best way to effectively communicate in my opinion is to use a simple technique called ‘bottom-lining.’

This means that you should state what you want from the person or what you want to achieve within the first two sentences (when in writing) or within the first minute (when verbal).

You should ask yourself after every sentence, ‘So What?’ If you can’t answer the question, then you have not bottom-lined your discussion. Try this trick. . . it works.”

Along with teaching a course at UA to help students better prepare themselves, Chilcutt and Brooks also authored a book (Engineered to Speak, available on Amazon) to better aid those professionals.

“It’s important to add that the goal of the book was to create a repeatable process guide for professionals to learn and follow,” said Chilcutt.

“It’s a workbook that includes space to work through the steps involved in crafting a presentation and creating visual aids. We included self-evaluation and peer-evaluation sheets for continued improvement. The last chapter is a compilation of all the worksheets and a training curriculum.”

Short of a book, or a course, what’s the easy solution? Baldwin answers succinctly: “Stick with what you know.”

Baldwin: “As a Board Member, the one thing I have noticed is that the field of engineering is a science and therefore, my advice would be to stick to the science of the field and do not take liberties that go outside of the confines of the science.”

COMMUNICATE BETTER

Whether a professional engineer or land surveyor, or a professional in general, the ability to communicate thoughts to an audience is key to career success. Writing, speaking to an audience, is in a sense a form of marketing. The goal is to get a message across that is clear and understood by those on the receiving end. For this community, technical writing is a key component of the job.

Technical writing, as defined by LinkedIn, marries “the ability to create functional documents that at times deal with sophisticated concepts, yet must be understood and expressed through a clear and concise manner.”

Basically, as a professional it’s key to not only understand the topic at hand, but have also a clear path forward to present said topic in a way that others can interpret what is being read or being presented to them.

So what can be done to help achieve this goal? After consulting multiple business publications and career reference sites, here are a few tips to better improve communication:

1. Remember your Audience

Identifying your audience is the key to any communication, be it a peer paper, a white paper, or a presentation given to an audience of the general public. Einstein said once: “If you can’t explain it simply then you don’t understand it enough.”

Which mean that your targeted audience won’t understand what’s being communicated to them. If you feel difficulty talking about a topic, take a moment to assess your level of knowledge. If you have doubts or are struggling with the simplest way to communicate, go back and do more research or talk to another professional within your field. Keep at it until you feel ready to explain a concept to a 10-year-old and have them understand it.

2. Avoid the Jargon

Everyone in business hates having to read business writing that is full of buzzwords and “phrases of the day.” Things like “blue-sky solutioneering” and “strategical synergies.” Phrases like those tend to come off as nothing but useless bits of prose

that mean very little and will often turn off the audience. Phrases like “brainstorming” and “opportunities to work together” are more palatable and sound less ridiculous. Using jargon in a presentation sometimes has the same effect as a politician at a stump; words are being spoken but sometimes the meaning is very little. To a reader, even in the same field as the author or presenter, pages filled with jargon and jingoistic phrases are often passed over without a second thought given.

3. Use Examples

Whether being written as a white paper or put on a slide to be used during a presentation, examples keep the author/presenter tied to reality and this is crucial as both mediums for a technical presentation deal with practical topics. Think of it as a professor teaching a class: the students are going to be more drawn into situations and solutions where problems had to actually be solved instead of focusing on hypothetical situations posed from a textbook. If there is a worst-case scenario / best-case scenario that can be referenced don't be afraid to discuss it.

4. Measure Twice, Cut Once

In terms of construction, it's important to make sure of the measurement needed before applying the saw. When it comes to the written word (be it a paper or a PowerPoint slide or a publication) write it once and then check it twice. Proofread immediately after the paper is finished and then a few hours later. Nothing, and this is experience speaking, is more embarrassing to an author than finding a mindless typo in an otherwise excellent document. Things like that happen though no matter how many eyes are put upon the copy or the presentation slides.

The brain is sometimes a tricky sort and will ignore errors that have just been made in the immediate aftermath of writing or preparing a document. Allow time to come back and give it a second or a third read to clean up any errors. When there is time to proof a document, take it; unless you are trying to get information out during an emergent situation.

5. Answer the Important Questions:

Just like a journalist is beholden to the Five W's (Who / What / When / Where and Why ... and How), it's up to the author/presenter to answer the same questions as they are relevant to the audience. For example, who is this presentation's target? What pertinent information are they going to need? Where will it apply and most importantly, why is it important to them? Taking this step and thinking ahead will also help answer any looming questions during the communication period instead of during a question and answer period at the end.

6. Be Professional with a Personality

There's a tendency to view all technical and business communications as formal and stuffy with little room for the author to inflict bits of personality. Oftentimes that's not really the case nor is it productive. Formal language is fine for legal document and job applications, but for papers and presentations, don't be afraid to loosen the collar and unbutton the top button. At the same time though, understand that there is a line that must be managed between informal and unprofessional. Keep the snark and off-color jokes out of the materials to be presented.

Due to recent changes to state and local requirements regarding capacity for groups and events in response of the Covid-19 pandemic, NCEES has been required to cancel some existing examination registrations including the PE Electrical and Computer: Power exam.

But, those looking to take the exams should not fret. This has actually allowed NCEES to expedite their goal of having all PE exams be computer-based. National Council has accelerated the PE Electrical and Computer:Power exam transition to computer-based-testing from its original date to of April 2021 to December 2020.

As a result of this change, NCEES canceled the October 2020 pencil-and-paper administration for the two exams and opened registration for the new computer-based PE Electrical and Computer:Power exam in August. It really is a winfall for those expecting to take the test in October because they were notified of the change by NCEES, refunded their fee and given the opportunity to register for the December computer-based exam.

Registration for the PE Electrical and Computer: Power exam with appointments availability beginning December 1.

The PE Electrical and Computer: Power exam is offered in three disciplines: Power / Computer Engineering / Electronics, Control and Communications.

ENFORCEMENT ACTIONS

Engineering Professionals Inc

An investigation determined Engineering Professionals Inc, provided engineering services for projects in the State of Alabama without first obtaining a certificate of authorization from the Board authorizing the firm to offer or provide engineering services. The firm agreed to a consent order that required it to pay a \$2,500 civil penalty, to pay \$460 for the cost of the investigation, and the consent order and final order would be a public record.

The Roberts Group of Kentucky PC

An investigation determined The Roberts Group of Kentucky PC, provided engineering services for projects in the State of Alabama without first obtaining a certificate of authorization from the Board authorizing the firm to offer or provide engineering services. The firm agreed to a consent order that required it to pay a \$2,000 civil penalty, to pay \$120 for the cost of the investigation, and the consent order and final order would be a public record.

Coalmont Electrical Development Corporation

An investigation determined Coalmont Electrical Development Corporation, offered engineering services in the State of Alabama without first obtaining a certificate of authorization from the Board authorizing the firm to offer or provide engineering services. The firm agreed to a consent order that required it to pay a \$2,500 civil penalty, to pay \$380 for the cost of the investigation, and the consent order and final order would be a public record.

Elder Consulting LLC

An investigation determined Elder Consulting LLC, provided engineering services for projects in the State of Alabama without first obtaining a certificate of authorization from the Board authorizing the firm to offer or provide engineering services. The firm agreed to a consent order that required it to pay a \$3,000 civil penalty, to pay \$131 for the cost of the investigation, and the consent order and final order would be a public record.

Jay Everett Spencer, PE

An investigation determined Jay Everett Spencer, professional engineer, submitted documents regarding the location of an onsite septic system to the Department of Public Health that were approved. Mr. Spencer later changed the proposed location of the septic system without receiving approval from the Health Department; and submitted documents to the Health Department that indicated the system was installed in the original proposed location. Mr. Spencer agreed to a consent order that required him to pay a \$2,500 fine, a two year stayed suspension of his professional engineer license, and the matter would be a public record.

SBI Engineers PLLC

An investigation determined SBI Engineers PLLC, provided engineering services for projects in the State of Alabama without first obtaining a certificate of authorization from the Board authorizing the firm to offer or provide engineering services. The firm agreed to a consent order that required it to pay a \$6,000 civil penalty, to pay \$155 for the cost of the investigation, and the consent order and final order would be a public record.

Michael Quinn & Associates PC

An investigation determined Michael Quinn & Associates PC, provided engineering services for projects in the State of Alabama without first obtaining a certificate of authorization from the Board authorizing the firm to offer or provide engineering services. The firm agreed to a consent order that required it to pay a \$2,500 civil penalty, to pay \$100 for the cost of the investigation, and the consent order and final order would be a public record.

A PROFESSIONAL PERSPECTIVE

Shunna Cannon | ASPE President (2020)

Pages 21-23



My membership and service affiliations with the Alabama Society of Professional Engineers (ASPE) date back to 2009 when Pat Christians was the Executive Director and when Dave McKee, Bill Donley, Steve Stewart and Courtney Norris were officers.

Also, that same year, I received my PE for the State of Alabama.

Prior to licensure, I was an engineering intern at BE&K Engineering for over two years where I performed calculations, estimates, and computer modelling for structural systems. There, I had the pleasure of meeting Harold Hite.

I obtained my BSCE (magna cum laude, 2004) and MSCE (2005) from the University of Alabama at Birmingham (UAB) under the guidance of Dr. Fouad, PE (Chair; Civil, Construction, and Environmental Engineering Department). In 2004, Dr. Fouad transported students to the 50th anniversary of the Prestressed Concrete Institute (PCI) conference in Atlanta, Georgia.

This experience exposed me to the vast and practical applications and benefits of prestressed concrete.

After obtaining my BSCE, I was encouraged to conduct non-thesis research regarding the theoretical performance of spun cast prestressed con-



crete utility poles during the hurricane season of 2004.

Upon receipt of my MSCE, Dean Linda Lucas informed me of a mentoring opportunity with Momentum Leaders where I met my mentor, Sue Steele, of BE&K Engineering.

Sue, in turn, introduced me to Bo Gilbert, also of BE&K Engineering as I expressed a sincere interest to gain engineering experience with heavy industrial market sectors such as ore excavation, chlor-alkali, cement, pulp and paper, and power.

Accordingly, I have been a civil engineer by degree for 16 years and a transmission line design engineer for over 12 years.

I am employed with Southern Company Services in Birmingham as a contract support engineer responsible for the Southern and Southeast regions of the Alabama Power service territory. I have designed and reviewed engineering job packages for a variety of projects: conductor replacements, shieldwire replacements, switch installations, line relocations, line rebuilds, new construction, thermal upgrades, and remediations.

I have worked storm duty during the 2011 tornadic outbreak in Alabama and Hurricane Michael in 2018 in Panama City, Florida. My work experience as a transmission line design engineer is primarily due to my graduate advisor Dr. Fouad introducing me to Charles Munden PE, former Manager of Transmission Line Design for Alabama Power Company, Vincent Essix, Supervisor Transmission Line Design, and Kristen Bridges, former Team Leader for Transmission Line Design.

Today, as 2020-21 ASPE President, I work very closely with Malinda Battey, ASPE Executive Director, and Rebecca Ann Seals, State Treasurer, to conduct society business for over 240 members statewide.

We have a team consisting of region-

al Vice Presidents (VP North-David Hamilton; VP Central-Janie Mauter; VP South-Ray Miller), chapter Presidents (Scott Huisman-Decatur; George Hamilton-Huntsville; Ray Miller-Mobile; Hollis Morgan-Montgomery, Steve Mertry-Muscle Shoals and I represent the Birmingham area), state Secretary (Don Lokey), State Treasurer (Rebecca Ann Seals), and state Delegate (Sharon Kimbrough).

I succeed Whit McCormack as the first African-American female President for ASPE. This year was different for ASPE as the officers were virtually installed by Robert Green, past President of NSPE.

Dr. Green also shared a very informative ethics presentation after the installations.

I have served in various roles in the Birmingham chapter and I recognize the importance of maintaining vitality and stewardship while organizing the quarterly meetings.

At our meetings, I have fond memories of listening to former BELS Executive Director Regina Dinger speak about board updates and learning about the importance of advocacy with Alabama State Senator, Clyde Chambliss. Each year, though, has its challenges such as the COVID-19 pandemic sweeping the globe, and the ever-present challenge to improve member engagement and retention.

Malinda arranges for ASPE officers to meet on a monthly basis via teleconference to discuss and approve action items for society business. Financial reports of each chapter are due in mid-Fall for tax purposes of the previous fiscal year. The fiscal year budget is prepared by the President, Executive Director, and State Treasurer and then reviewed and approved by the quorum of officers. Actual income and expenses are tracked throughout the year for accountability of funds.

We also meet with our Southeast Regional Director, Michael Harris on a monthly conference call to share best practices, recognition, national policy, and tasks of the state societies.

Founded in 1951, ASPE promotes the ethical and professional practice of engineering, advocates licensure, and enhances the image of the profession through education, leadership training, networking, and outreach activities.

The mission of our organization is to (i) serve as the recognized and authoritative expert in licensure, ethics, and professional practice; (ii) promote licensure and assist individuals towards licensure, and (iii) protect and enhance the value of licensure and opportunities for the licensed engineer. ASPE also has commitments to the National Society of Profession-

al Engineers (NSPE), Engineering Council of Birmingham (ECoB), and the Alabama Engineering Hall of Fame (AE-HoF).

During the fall, our members encounter development and exposure during our annual Ethics Day event that offers up to 4 professional development hours for attendees who view all of the webinars.

With Malinda's diligence, this year's Ethics Day will feature 2020-21 NSPE president, Tricia Hatley PE as a speaker. We value Tricia's leadership and her engineering contributions throughout many years of service. We thank Tricia for her support of our event.

During Engineers Week, members can attend the annual ECoB awards banquet in which students and professionals receive recognition for engineering excellence and in which the Leadership Award recipient delivers a keynote presentation. During late winter/early spring, the MATHCOUNTS regional and state competitions provide engineering outreach within local communities.

In the future, we will be seeking to diversify the funding strategy for MATHCOUNTS by utilizing traditional and alternative sources.

Janie Mauter PE, Justin Harrison PE, Jermaine Clements, and David Boyd PE have organized the events in past years down to every detail. Later in the year, the summer meeting is held jointly with the Mississippi Engineering Society and provides members with access to sessions where up to 12 professional development hours can be earned. Malinda arranges locations, speakers, and agenda items for the summer meetings. Malinda also organizes excursions to be family friendly and convenient for Alabama and Mississippi attendees. For example, the 2019 conference was in Biloxi, Mississippi where attendees and their families could enjoy a lovely dinner cruise along the coast.

In 2021, the summer meeting will be at the Gulf State Lodge in Alabama. (*The 2020 summer meeting was cancelled due to travel restrictions related to the COVID 19 pandemic). In late summer, the annual PECON conference is available for members to earn professional development hours, fellowship with other licensed professionals, learn about advocacy at all levels of legislation, and tour the local attractions of the host city.

The 2021 PECON conference will be in Philadelphia, Pennsylvania.

NEW LICENSEES

• PE LICENSEES

ADAM CHRISTOPHER HAWKINS
ADAM JAY WEIBLE
ADAM RHODES BARE
ALEXANDER MATTHEW HARRIS
ALEXIS ROSADO ERAZO
ALFRED SOLIMAN
ALI RAZAVI
ALYCE STUART ALT
AMANDA ROSE NOGAY
AMAR CUMUROVIC
ANDREA B. MANCEAUX
ANDREW GATLIN LONG
ANIL KUMAR UNDADI
ANNA GRACE RICHARDSON
ANTHONY DAVID MILLER
ANTHONY MICHAEL JOHNSON
ANTHONY SHANE DUTTERA
ANTHONY WARREN MILLER
ASHLEY RAY AVERY
AUDRY JAMES FERGUSON JR
AUSTIN RAY SANDERS
AYODEJI ADEYEMI
BENJAMIN DAVID ZEHNER
BENJAMIN JAMES FULTON
BENJAMIN KNIGHT BACON
BENJAMIN PIERCE SAWKINS
BENJAMIN S. MCMILLAN
BENJAMIN TODD WEIGAND
BILLY RAY ALUMBAUGH
BRANDON THOMAS BELL
BRET ALAN SCHLEISSING
BRETT EVAN ROWAN
BRETT JOSEPH MAGARAM
BRETT MICHAEL RAGSDALE
BRIAN ALLEN BARNES
BRIAN HEATH LUCAS
BRYAN PAGE LINDSEY

BRYAN ROBERT WARD
BRYAN TIMOTHY OAKLEY
BRYCE DANIEL CRADY
BRYSON MCKINLEY BREWER
BYRON RAY GRIFFITH
CAITLYN JILL SPANN
CAMERON CRAIG DAY
CARL RICHARD SIMPSON
CAROLINE DAWN CARDEN
CHAD ANDREW HAUGEN
CHAD DANIEL CROWNOVER
CHARLES ARLINGTON STUMP III
CHARLES DANIEL STEVENS
CHASE JOSEPH CONNOR
CHRISTOPHER BRENT LEHMAN
CHRISTOPHER BRIAN POJE
CHRISTOPHER GEORGE REUTLINGER
CHRISTOPHER GREY BURNETTE
CHRISTOPHER SCOTT CRAIG
CHRISTOPHER SCOTT MORROW
CHRISTOPHER WAYNE GRAVES
CLARENCE BARTON KEMPER III
CLAY WESTON ROSE
CORY ALLEN SPARWASSER
CORY PATRICK MCNAMARA
COURTNEY HARKNESS HEARIN
COURTNEY O. WASSOM
DANIEL DIAZ-LUGO
DANIEL JAMES HILLNER
DANIEL JOSEPH BAUER
DANIEL P. ALLEN
DANIEL RICHARD COOPER
DAVID ALLEN ELLERMANN
DAVID BRIAN HOFF
DAVID CHRISTOPHER LENNON
DAVID EDWARD KOSNIK
DAVID JON ANDERSON
DAVID MICHAEL SMITH

DENISE JEAN CHASTAIN-KNIGHT
DEREK MICHAEL HERRON
DILLON JAMES FRENCH
DIVYANG NAVINBHAI SURATI
DONALD ALLEN BROWN
DONALD JAMESON PHILLIPS
DONALD W. KUNERT
DOSOON SONG
DOUGLAS JAMES ELGERSMA
DOUGLAS WILSON CARR
DUSTIN EDWARD DAVISON
DUSTIN R. PADGET
DUSTY JAMES COULON
DWANE LYNN LEGG
ELIZABETH JOAN ANDREWS
ELIZABETH LIM GROSS
EMILY MILLER SMITH
ERIC ARTHUR BERTOLOTTI
ERIC C. TAYLOR
ERIC NICOLAS SORRELLS
ERIC RANDAL CULVER
ERIC WILLIAM DEMPSEY
ESSAM F. TAWFIK ALI MANSOUR
FATIH SULTAN OKTEN
FRANK STEPHEN MALITS
GABRIEL WILLIAM LANG
GARY ARLIE COOPER JR
GARY HOWARD KOBLASZ
GEORGE ALLEN BOWERS JR
GEORGE DANIEL SMITH
GLENN LEE REEDER JR
GORDON JAMES HANDZIUK
GREGORY ALAN YANKEY
GRETCHEN L. DRUCK
GYU TAE PARK
HAFSAH K NAVARRO-HENRY
HAOXUAN LEI
HARVEY HUGH HALL III

Moreover, Malinda meticulously crafts a newsletter entitled 'The Alabama Engineer' that is distributed to our members via email.

It consists of a quarterly snapshot of current and upcoming ASPE events and includes information about sustaining organizations of ASPE. ASPE also offers scholarships to deserving sophomore and junior students who attend an ABET accredited engineering program at a college or university in the State of Alabama. Scholarships are disbursed from the Alabama Engineering Foundation based on the financial need

of the students and the criteria of the scholarship committee.

Alabama currently has 7 universities that offer engineering curricula. We actively recruit members by accessing the listing of newly licensed engineers, with consent from the State Board of Licensure, and sending them congratulatory letters welcoming them into the engineering profession and informing them about ASPE. Our website, teleconference, and email are our most common and effective form of communication, all thanks to Malinda. More information about our organization can be found at www.myaspe.com.

NEW LICENSEES

HUGH PATTERSON BUNN
HUNTER CAYDEN BROADUS
IAN AULTMAN
IBRAHIM MOHAMED OSMAN
JACK BARRY KIRSCHENBAUM
JACKSON HELTON SMITH
JACOB HARRISON BROWN
JAMES CARTER NYGAARD
JAMES CHARLES DUFINETZ
JAMES MICHAEL VENTURE
JAMES PAUL BUHRDORF
JAMES RICHARD PITTMAN
JAMES THOMAS DAVIS
JAMES WALKER DAILEY
JANAK THAPA
JANYCE AKIKO SPENCER
JASON DAVID TAYLOR
JASON EDWARD COTTOM
JASON ELWOOD SMITH
JASON LEE ABENDROTH
JAY MATTHEW AHLBRAND
JEFF THOMAS BROWN
JEFFREY ALAN KERSHNER
JEFFREY DOUGLAS MCMILLEN
JEFFREY L. ALLEN
JEFFREY MICHAEL MILLER
JEFFREY RYAN WOODWARD
JERMAINE FITZROY WILLIAMS
JOHN D. STOWELL
JOHN HENRY CRESWELL
JOHN MICHAEL BATAVICH
JOHNNY BOUASONE PHANTHALA
JONATHAN DARRELL FUSSELL
JONATHAN DIESEL HINKLE
JONATHAN MCARTHUR CLARK
JONATHAN PATRICK WADDELL
JONATHAN WILLIAM MARTI
JORDAN KYLE MORGAN
JOSEPH GLENN CREWS
JOSEPH JOHN BERNS
JOSEPH STEVEN VESPA
JOSEPH TERRELL RUDD
JOSEPH THOMAS WATSON JR
JOSHUA JAMES CANOVA
JOSHUA ROBERT CLOYD
JOSHUA RYAN SPARKS
JOSHUA WILLIAM BESTE
JUAN JOSE GONZALEZ
JUDSON CAIN SOMMERVILLE
JUSTIN BRANT OLSON

KADARRYL LAMAR SIMMONS
KAI CHI WONG
KAMALJIT BAGHA
KEITH PATRICK BRODOCK
KELSEY DUNN STEPHENS
KENDRA MARIE SCHENK
KERRY JOSEPH JERNIGAN JR
KEVIN PAUL LASKY
KIMBERLY ANN WOOD
KIRK WILLIAM TICKNOR
KURT DOUGLAS BURRELL
KURT ROSS VILLELLA
KYLE EDWARD CZAPLA
KYLE EVERETTE ALBRITTON
KYLE HERBERT COMPTON
LARRY DEAN DIXON II
LEAH T. BENINCASA
LEIGH ANN VOGEL
LEONARD M. HRICZ JR
LESTER XAVIER SALINAS SUAZO
LONNIE JAMES LANNERS
LUANA CLARA OZELIM BROSHEARS
MARC DAVID STUBBS
MARC PATRICK MAIER
MARC WILLIAM BACHMAN
MARK CLYDE KANONIK
MARK REIDAR JOYCE
MARK S. SUCHECKI
MARLON RANDALL STALLINGS JR
MATTHEW AARON KRIETE
MATTHEW CALVIN BREAKS
MATTHEW DAVID KUEHN
MATTHEW EDWARD BETTS
MATTHEW JOSEPH BOYCE
MATTHEW LEWIS SALMON
MATTHEW RICHARD MUMPOWER
MATTHEW RICHARD YOUNG
MATTHEW SCOTT NORRELL
MATTHEW W. LOSER
MATTHEW WILLIAM LEE
MD ASHRAFUL ALAM
MEGAN ELIZABETH HUNTSINGER
MEHDI KHALILI
MENASSE TEKLEWOLD KUMLACHEW
MICHAEL ALAN CRESAP
MICHAEL ALLEN BERGER
MICHAEL ANDREW FICKER
MICHAEL BRYAN GODWIN
MICHAEL CHRISTOPHER LEE
MICHAEL GLENN EILERS

MICHAEL GLENN LEATHERS
MICHAEL JON DRINKWATER
MICHAEL JOSEPH WOJTUNIAK
MICHAEL PAUL FORET
MICHAEL PHILIP LEITZINGER
MICHAEL RYAN SCHUESSLER
MICHAEL WILLIAM GRAY
MICHAEL WILLIAM QUIGLEY
MICKEY LEE ROBERTSON
MINDY NICOLE O'NEAL
MIRCEA NICULESCU
MITCHELL TYLER MOSHER
MOHAMED GAMAL ABDEL-MAKSOUDE SHEHATA
MOLLY MARA BEENE
MUFUTA TSHIMANGA
NEAL R. BENISH
NICHOLAS BRANDEN MOJICA
NOAH DANIEL MEEKS
NOLAN KENDALL BALLS
OLIVIA ANNE BERRYHILL
PABLO MANUEL DIAZ
PATRICK CORMIER
PAUL EDWARD WHITMIRE
PAUL MICHAEL TOBBEN
PAYDEN ROYCE JOHNSON
PETERSEN RYAN BENJAMIN
PHILIP ANTHONY ZIEGLER
PHILIP COLLIN HATHAWAY
PIOTR PACZKOWSKI
RACHEL MARIE MOKRY
RANDALL WAYNE CARWILE
RANDALL WILLIAM GRACHEK
RICHARD JEFFREY GISH
RICHARD JOHN MARTIN
RICHARD LOUIS TRAXEL
ROBERT PETER LUPO
ROBERT WILLIAM GUSTAFSON
ROHIT SONI
RONALD DANIEL LEATH
RONALD E. SCHULTS
RONALD JOSEPH FENDER
RONALD L. RENS
RUSSELL KENT HOLEMAN
RYAN CRAIG HOPEMAN
SALVADOR VILCHES DIAZ
SAMANTHA MARSH
SAMIUDDIN ARIF SHAIK
SANDRA PRINCE JENNINGS
SARAH WOODS BEHUN
SCOTT ANDREW HALL

NEW LICENSEES

SCOTT BRADLEY CARROLL
SEAN MICHAEL DOTSON
SEAN ROBERT MIDDLETON
SERGE PARENT
SHANE LOUIS UNICK
SHANNON RENE ORY
STEFANIE JO HOFFMAN ENGLISH
STEPHEN DOUGLAS SMITH
STEPHEN JOSEPH POWERS
STEPHEN WAYNE NICKERSON
STEVEN DEREK CINELLI
THANH CHAU NGOC TANG
THOMAS ALEXANDER HOLT JR
THOMAS CRAIG JANSEN
THOMAS JAMES FUGARD
THOMAS LESTER FENDLEY JR
TIMOTHY ANDREW EAVES
TIMOTHY BRIAN KRATZ
TIMOTHY DANIEL GAUSE
TIMOTHY DANIEL MALONEY
TIMOTHY JAY CALDWELL II
TIMOTHY TODD MARTIN
TODD WALTER WHISENHUNT
TRAVIS CLAYTON COLLINS
TRAVIS WAYNE MONSALVATGE
TRENTON DEAN SMITH
TREVOR HIJAZI GREENBERG
TROY D. THOMPSON
TROY EVAN PERSAUD
TROY J. RUDOLPH
VERNON JAMES DOTSON JR

WALTER H. HUNGARTER III
WESLEY DAVID CUMMINGS
WESLEY MICHAEL MACDONALD
WILLIAM BRENT WILLIFORD
WILLIAM BRUCE DOWBIGGIN
WILLIAM JOHNNIE HOLMAN JR
WILLIAM HELMADOLLAR JR
WILLIAM RAY LOWE JR
WILLIAM RAY WINSTON
WILLIAM S. CRAWFORD
WILLIAM S. WHITE
WILLIAM STANLEY MATHERS
YAN WANG
YANG FENG ZHENG
ZACHARY LOUIS GRABOWSKI

• PLS LICENSEES

DANIEL AARON OVERSTREET
JAMES DRUMMOND YORK
JANSSEN MIKAEL ROBICHAUX
JEREMY WAYNE FLETCHER
SHAWN PAUL MACMENAMIN
WILLIAM SCOTT WILLIAMS

• ENGINEER INTERNS

ADRIANNA NICOLE HARTZELL
ALEXANDER MCINTYRE SWADER
ANDREW MARK GRAY
ANTHONY MASTRANTONIO

BRADLEY MASON FISCHER
BRANDON MICHAEL CAMPBELL
BRIAR CALEB TEEL
CALEB COORS GILBERT
CAMRYN ANNETTE SWAIN
CAROLINE ANNE MCCARTY
CASEY MARTIN HENDERSON
CASEY SNEAD KENT
CATHERINE TATUM CONNELL
CHRISTOPHER MICHAEL ALLEN
DALE CHESTER BRAXTON JR
DANIEL GERSH YAMPOLSKY
ELIZABETH JOY STANBROUGH
EMILIE ANNE FOWLER
EMILY ELIZABETH MUELLER
ERIK ALEXANDER ZILLNER
EVA GRACE BARTLETT
EVAN HUNTER BEDWELL
GRANT MATTHEW SMEYNE
HARVEY MADISON PRIDE II
JAMES JUDSON MCMICHAEL III
JAMES WALTER KELLY
JAMES WORTH RATLIFF
JEFFREY KEOLA ISKANDAR
JOANNA LANE CALDWELL
JOSEPH MICHAEL WILLIAMS
JOSEPH ROSS GARLAND
JUSTIN TAYLOR BOX
KATIE ELIZABETH LOVE
KYLE MATTHEW MCCORMICK
LORI ELIZABETH MCCAFFERTY

MADISON E. WICHMANN
MARGARET CLAIRE HOMEYER
MARISOL SALADO
MARSHALL COLLEY GRIFFIN
MATTHEW PAUL MERCATANTE
MEREDITH RUTH GOERGEN
MILES ALLEN DEARING
OLIVIA LAUREN HORNSBY
PADEN HARRIS CROWDER
RICHARD KOHL BOOZER
ROBERT EARL ELLZEY III
SEENA SEYED SHOJAEI
SHAUN ALAN GREISING
TANNER ALEXANDER CLARK
TAYLOR MICHELLE DAVIS
TYLER JACKSON LAWRENCE
TYLER MARK ADERHOLT
TYLER WILLIAM NORMAN
WESLEIGH DANIELLE RAINES
WILLIAM CHASE CUTRELL
WILLIAM MERCER HEATH
YEWON KIM
ZACHARY TY DORSETT

• LAND SURVEYOR INTERNS

MICHAEL RILEY TANAKA
PHUONG HUNG TRUONG

EDUCATION NEWS

Earlier in the fall, Dr. Stephanie Smallegan was named a recipient of the 2020 Gulf Research Project early-career fellowship. It is awarded to emerging scientific leaders who work at the intersections of environmental health, community health and resilience, and offshore energy systems safety in the Gulf of Mexico and other U.S. coastal regions.

“I was drawn to coastal engineering because of undergraduate research I conducted at Georgia Tech,” Smallegan, assistant professor at the University of South Alabama said in a press release. “I feel my students and I have a mutual respect where we celebrate each other’s success. I will celebrate this success with them to build their careers ...”



CONSTRUCTING A BETTER STATE

Frank Barnes | Department of Construction Management Director

Pages 26-27



Established in 1945, The Building Commission was abolished in 2015 with all authority and responsibilities transferred to DCM as part of the establishment of Real Property Management (RPM), an agency within the Alabama Department of Finance. RPM created centralized management of real property through its Divisions of Construction Management, Facilities Management, and Leasing Management. RPM's mission is to provide responsible stewardship of Alabama's state-owned and leased real property while serving members of the public, state agencies, schools, property owners, tenants, design professionals and contractors.

Besides plan review, DCM administers state-funded contracts, and DCM project architects assist with planning for the construction, repair, renovation, or relocation of buildings and structures for state agencies. DCM's Home Inspectors / EIFS Inspectors Licensing Division issues licenses for applicants after verifying compliance with state laws.

Administration of the Construction Industry Craft Training (CICT) Program is also carried out by DCM staff in conjunction with the CICT Board.



The scenic engineers office from the Department of Construction management - pictured are staff members (from left) Robert ÓReilly–Architect, Paula Glass–Electrical Engineer, Michael Robinson–former Fire Captain, Jodi Fuqua–Submittals Log-in/out and Tommy Faison–Plan Review Support. Frank Barnes (not pictured) is the DCM Director.

When are engineers required to submit plans to the Alabama Division of Construction Management (DCM)? What does the DCM Plan Review Division do? Who are the team members? In case you've ever wondered...

The DCM Plan Review Division administers the State Building Code through review of proposed construction plans, specifications and related documents for projects on property under DCM's jurisdiction which includes any new construction, addition, renovation, modification of mechanical, electrical, plumbing systems, sitework and generally any and all work on:

- State-owned property and/or using state funds.
- Public (including charter) and private K-12 schools regardless of funding sources.
- Public postsecondary schools including universities and Alabama Community College System (ACCS) institutions.
- Hotels/motels.
- Movie theaters.
- Municipal and county-owned projects (for ADA Standards compliance only).

The Lead Design Professional of such projects may submit plans to DCM for Schematic and Preliminary Reviews and must submit plans and any specifications to DCM for Final Review. DCM's approval of Final Review plans and specifications must be obtained prior to receipt of bids for any work on property under DCM's jurisdiction. Submittal requirements and procedures are available in DCM's 2020 Manual of Procedures at www.dcm.alabama.gov; check out the plan review section of DCM's FAQ webpage too. If you have questions about jurisdiction or submittal procedures, please contact a member of the Plan Review team; contact information is available on DCM's staff webpage.

Plan Review workflow:

Tommy Faison receives hard copy deliveries and organizes submittals for the Plan Review process. Jodi Fuqua manages planreview@realproperty.alabama.gov, organizes pdfs of non-schematic and non-preliminary submittals, handles plan review fees, logs-in complete submittals to the DCM database and uploads pdfs for off-site mechanical reviews. Logged-in hard copy submittals are passed to Bob ÓReilly who performs the architectural and front-end document reviews. As needed, Michael Robinson then performs fire protection reviews and Paula Glass performs electrical reviews while off-site mechanical reviews occur concurrently (once DCM's Mechanical Engineer reviewer position is filled, off-site reviews will cease). All reviewers enter comments or "no comments" in the DCM database. Any reviewer may reject a submittal for a code violation, request a response letter to the reviewers' project comments and request a revised resubmittal. If there are no rejections, the last reviewer will mark the submittal as approved. When the reviewers are finished, Jodi logs-out the review, scans relevant paperwork into DCM's database and emails the Project Comment Letter (PCL) to the Owner and the Lead Design Professional. The PCL states whether a submittal is approved or rejected, and whether any further action is required. The hardcopy then returns to Tommy who handles long-term storage and performs archive maintenance and destruction per state law.

Which requirements would the Plan Review team like to emphasize to engineers?

- All engineering drawings, addenda, ASIs, ASDs, additional specifications, etc., must bear the seals, dates, and signatures of all engineering disciplines.
- Final and Revised Final Review submittals: The specification cover sheet must bear the lead design professional's seal. The seals, dates and signatures of all engineering disciplines must appear in the project manual.
- All addenda and ASIs are an integral part of the construction documents and must be submitted to DCM for review and approval upon publication. Supplemental engineering drawings and/or specifications included with addenda must be sealed, signed and dated to comply with the State of Alabama Engineers Licensure Law, Administrative Code Chapter 330-X-11.

Plan Review Team Member Highlight

Paula Glass earned a Bachelor of Electrical Engineering degree in 1989 from the Auburn University College of Engineering, played the flute in the Auburn University Marching Band and was a Little Sister in Theta Xi Fraternity. She is a professional engineer in Alabama, Florida, Georgia and Tennessee. As an avid Auburn fan, Paula continues to attend as many football and basketball games as possible. She is also the proud mother of two current Auburn students and three fur babies, enjoys the beach with family and friends, likes to garden and participates in church activities.

Paula spent college summers working as an aide for the Alabama Department of Transportation and began her professional career in 1990 with Dickey and Associates. She next worked at Advanced Engineering Concepts and Scientific Engineering before starting in 2013 as the electrical reviewer for DCM (then known as The Building Commission). She is appreciated by her co-workers for her leadership, strong work ethic and sense of humor.

Are there any positions open at DCM?

Yes, as of the time of this writing in August 2020, two positions are open at DCM: Mechanical Engineer Plan Reviewer and Project Architect. Contact DCM Director Frank Barnes at frank.barnes@realproperty.alabama.gov with any questions or interest.

NCEES UPDATE

David Cox | NCEES CEO



NCEES recently added two new positions to better address a couple of NCEES strategic initiatives. Because these are new positions for our organization, I want to introduce the staff members and explain the work that they will be doing.

ADVOCACY AND EXTERNAL ENGAGEMENT

As threats against licensure's public protections have increased, NCEES has been supporting the work of member boards through its participation in the Alliance for Responsible Professional Licensing (ARPL). NCEES is also now helping member boards combat threats to public protection with more direct assistance.

To this end, NCEES hired an advocacy and external engagement strategist—Joshua Twitty—in July. Twitty will coordinate our organization's work with ARPL, track bills within state legislatures, and work with member boards seeking assistance on legislative issues. He will guide internal and external communication efforts to promote public sector understanding of the importance of professional licensure for engineers and surveyors. Twitty's experience in government affairs will be a useful asset to NCEES and its member boards. After serving in the United States Air Force for six years, he worked as a legislative analyst for the Arkansas Bureau of Legislative Research. In this position, he was responsible for tracking legislation and developing content to educate stakeholders.

SURVEYING MARKETING AND OUTREACH

The promotion of licensure is a core strategic initiative for NCEES. One metric of particular interest to NCEES is the number of individuals taking the Fundamentals of Sur-

veying and the Principles and Practice of Surveying exams. NCEES has supported—and will continue to support—surveying outreach initiatives spearheaded by other organizations, and it will continue to develop and lead its own.

As NCEES has increased its outreach efforts, it has become clear that more staff is needed to best manage outreach opportunities.

At its August 2019 meeting, the board of directors reviewed a request for \$1.3 million over four years to support the development of Surveying Candidate Objectives for Recruitment and Education (SCORE), a regional pilot program to promote the geomatics profession. SCORE was devised by a coalition of surveying societies—including the National Society of Professional Surveyors, Maryland Society of Surveyors, North Carolina Society of Surveyors, Surveying and Mapping Society of Georgia, Tennessee Association of Professional Surveyors, and Virginia Association of Surveyors.

These organizations are working together to address recruitment in the geomatics profession—including the recruitment of women and racial minorities, who are underrepresented in the field, as well as engineers who may become dual licensees—and thereby to strengthen licensed professional representation in an evolving geospatial world. The coalition requested the funding to support the study and implementation of recruiting, marketing, and public relations strategies for the geomatics profession. While the board of directors fully supported the aims of the project, it wanted NCEES to have more direct involvement in such a marketing initiative. Therefore, the board approved \$250,000 for the 2019–20 budget to develop a marketing program to increase the number of licensed professionals in

the geomatics field and for NCEES staff to work in conjunction with the National Society of Professional Surveyors and the coalition of state surveying societies to support the initiative.

As part of this commitment to surveying outreach, the board directed NCEES staff to create a dedicated surveying outreach staff position.

Marisa Trzemzalski joined our team as marketing and outreach coordinator for surveying in July. She will work closely with SCORE partners on surveying marketing and outreach projects. Additionally, she will coordinate NCEES marketing activities through print and digital advertising, exhibitions, and sponsored collaborations.

She will market NCEES services, promote the value of licensure, and coordinate K–12 outreach events. She also will work with our Speakers Bureau, fulfilling requests for speakers, updating materials, and assisting speakers.

Katie Kelley will continue as marketing and outreach coordinator for engineering. Having dedicated coordinators for engineering and surveying will allow NCEES to do more in its marketing and outreach collaborations with other organizations and do more to organize its own activities.

While working with other organizations allows us to expand our audience reach, developing our own initiatives allows us to tailor programs and activities to our mission and our specific strategic goals.

This two-pronged approach is a more effective strategy to advance licensure.

Trzemzalski has more than 15 years of experience in developing and implementing traditional marketing plans, with a recent emphasis on STEM-related outreach activities through her position as secretary of the Roper Mountain Science Center Association board of directors.

This science center, which is located near NCEES headquarters in Greenville, South Carolina, is part of the local school system and focuses on providing hands-on, standards-based activities and learning opportunities for both the school district and general public.

We are excited to see the new initiatives that these staff positions will allow us to be a part of. Supporting the work of member boards and advancing licensure for engineers and surveyors is at the heart of what we do at NCEES.

These positions will allow us to expand these activities and ultimately better help support engineering and surveying licensure's protection of the health, safety, and welfare of the public.



NCEES MOVES PE CIVIL EXAM COMPUTER-BASED TRANSITION TO 2022

The Principles and Practice of Engineering Civil Exam (Civil PE) is moving to computer-based with appointments available year round at Pearson Vue Test Centers beginning April 1, 2022.

No, this is not an April Fool's Joke by NCEES.

According to their press release, NCEES originally planned to complete the PE Civil exam's transition to the computer-based format in 2023 but fast-tracked the change as part of its response to the Covid-19 pandemic. After the April 2020 pencil-and-paper exam administration was cancelled because of the pandemic, NCEES added an extra day to the October 2020 exam administration and began exploring the possibility of moving the PE Civil exam to computer-based earlier than planned.

So that means registration for the computer-based April 2022 computer-based exam kicks off Nov. 1, 2021.

NCEES Chief Officer of Exams Tim Miller said: "This new format will give examinees more flexibility about when and where they take the exam."

For additional information on the PE Civil exam and the transition of NCEES licensing exams to computer-based, visit [ncees.org/cbt](https://www.ncees.org/cbt).



THE LAST LOOK



“If you are working on something exciting that you really care about, you don’t have to be pushed. The vision will pull you.”

Steve Jobs / Apple Founder